Remarks

Claims 1-6 and 21 are amended herein. Claims 7-20 and 22-23 are canceled herein, in response to the restriction requirement. These claims are canceled without prejudice to renewal. New claims 24-27 are added.

Support the amendments of claim 1-6 can be found throughout the specification such as on page 23, lines 12-27, page 7, line 20 to page 8, line 28, page 10, lines 4-15, and page 13, lines 1-19. Support for new claims 24-27 can be found throughout the specification, for example on page 23, lines 12-27, page 7, line 20 to page 8, line 28, page 10, lines 4-15, and page 13, lines 1-19.

No new matter is added. Substantive examination of the subject application is respectfully requested.

Restriction Requirement

In response to the restriction requirement, the Applicants elect Group 2 (claims 1-6 and 21, drawn to an isolated protein of SEQ ID NO:4), and composition thereof, with traverse. Applicants note that the proteins of Group II regulate an enzyme involved in the production of superoxide. These proteins regulate the NAPDH-oxidase NOX1, but are not isolated NOX1 proteins themselves.

Groups 1, 2, 3 and 4 are each drawn to an isolated protein of SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6, and SEQ ID NO: 8, respectively. The amino acid sequence set forth as SEQ ID NO: 4 is a protein that regulates superoxide production and that is 371 amino acids in length. Using the amino acid sequence set forth as SEQ ID NO: 4 as a references sequence (as it is elected herein), the amino acid sequence set forth as SEQ ID NO: 2 is a variant of SEQ ID

NO: 4 that differs by a single amino acid; it is 370 amino acids in length. Thus, a protein having an amino acid sequence set forth as SEQ ID NO: 2 is a variant (a deletion of a single amino acid) of the amino acid sequence set forth as SEQ ID NO: 4 that differs from SEQ ID NO: 4 by less than 20% and regulates superoxide production. The amino acid sequence set forth as SEQ ID NO: 6 is 376 amino acids in length. Thus, a protein having the amino acid sequence set forth as SEQ ID NO: 6 is a variant (an addition) of the amino acid sequence set forth as SEQ ID NO: 4 that differs from SEQ ID NO: 4 by less than 20% and regulates superoxide production. SEQ ID NO: 8 is 375 amino acids in length. Thus, a protein having amino acid sequence set forth as SEQ ID NO: 8 is a variant (an addition) that differs from the amino acid sequence set forth as SEQ ID NO: 4 by less than 20% over the amino acid sequence and regulates superoxide production.

To summarize, the amino acid sequences set forth as SEQ ID NO: 2, SEQ ID NO: 6 and SEQ ID NO: 8 are each amino acid sequences that differ by less than 20% from the amino acid sequence set forth as SEQ ID NO: 4 that regulate an enzyme involved in the production of reactive oxygen. Clearly the specification describes several members of a genus of proteins, each of which (1) differ by less than 20% from the amino acid sequence set forth as SEQ ID NO: 4, and (2) regulate an enzyme involved in the production of reactive oxygen.

The MPEP § 803.04 sets forth examples wherein a restriction of sequences is appropriate:

> "It has been determined that normally ten sequences constitute a reasonable number for examination purposes. Accordingly, in most cases, up to ten independent and distinct nucleotide sequences will be examined in a single application without restriction...nucleotide sequence encoding the same protein are not considered to be independent and distinct inventions and will be examined together."

Indeed the U.S. PTO has decided *sua sponte* to partially waive 37 CRF 1.475 and 1.499 *et seq.* to permit the applicant to claim up to ten nucleotide sequence that do not have the same or corresponding technical feature (see MPEP § 1850).

Although these sections of the MPEP are directed to nucleotide sequences, it is believed that the intent of the U.S. PTO is to allow the examination of multiple sequences (either amino acid or nucleic acid, even independent sequences) in a single application. In the present application, the claimed proteins are related both in their sequences (they differ by only 20%) and in their function (they regulate an enzyme involved in superoxide production (NOX1)). Thus, these proteins share a technical feature.

Applicants believe that the claimed protein sequences could be examined together without posing any undue burden to the Examiner. Thus, rejoinder of Groups 1-4 is respectfully requested. At the very least, Applicants request that the restriction requirement be revised to indicate that proteins having an amino acid sequence set forth as SEQ ID NO: 2, SEQ ID NO: 4, SEQ ID NO: 6 and SEQ ID NO: 8 are each members of a genus of proteins (the genus set forth in claim 1). Thus, the election of Group I would be considered an election of species.

Reconsideration of the restriction requirement is respectfully requested.

Conclusion

If any matters remain to be addressed prior to substantive examination, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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